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**REMARKS**

This response is intended as a full and complete response to the non-final Office Action mailed September 26, 2005. In the Office Action, the Examiner notes claims 1, 3-6, 8-10 and 14-20 are pending and rejected. By this response, claims 1, 6, 14, and 19 are amended. Claim 16 is hereby cancelled.

In view of both the amendments presented above and the following discussion, Applicants submit that none of the claims now pending in the application are anticipated or obvious under the respective provisions of 35 U.S.C. §§102 and 103. Therefore, Applicants believe that this application is now in condition for allowance.

It is to be understood that Applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendment.

**REJECTIONS****35 U.S.C. §102****Claims 1, 6 and 14**

The Examiner has rejected claims 1, 6 and 14 under 35 U.S.C. §102(e) as being anticipated by Wang (U.S. Patent 6,724,722, hereinafter "Wang"). The rejection is respectfully traversed.

In general, Wang teaches management of potential traffic growth, and associated congestion, in an information network. Specifically, Wang teaches that traffic demands from a source node to a destination node are monitored and, for each demand, and for each link of the network, the portion of the bandwidth associated with each traffic demand that is provided by the given link is determined. A maximum value of link utilization among all links of the network is then determined, and the traffic demands are routed across the links of the network in such a manner as to minimize the maximum value of link utilization. (Wang, Abstract).

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Wang, however, fails to teach or suggest each and every element of Applicant's invention of at least claim 1, as arranged in the claim. Namely, Wang fails to teach or suggest an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity trunk for directly coupling to a type two node wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node, as taught in Applicants' invention of at least claim 1. Specifically, Applicants' claim 1 positively recites:

"A node for grooming low capacity client signals into a high capacity signal, comprising:  
an interface to a first high capacity trunk for directly coupling to a type one node; and  
an interface to a second high capacity trunk for directly coupling to a type two node;  
wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node."  
(Emphasis added.)

In the Office Action, the Examiner cites node C of Figure 1 of Wang as the reference node having the associated interfaces of Applicants' invention. In particular, the Examiner cites the path C-D-F of Figure 1 of Wang as an interface to a type one node (where node F is cited as a type one node). The Examiner further cites the path C-E of Figure 1 of Wang as an interface to a type two node (where node E is cited as a type two node). As taught in Wang, nodes D and E perform the same functions. As such, from the perspective of node C, Wang merely teaches two interfaces for directly connecting to two associated type two nodes, respectively. Thus, Wang merely teaches a node (node C) for splitting traffic destined for one node type (node F) between a pair of interfaces (C-D interface and C-E interface) directly coupled to two nodes (nodes D and E) of a different node type, respectively.

A node having a first interface to a first trunk for directly coupling to a first type two node and a second interface to a second trunk for directly coupling to a second type two node, as taught in Wang, is not a node having an interface to a first high capacity trunk for directly coupling to a type one node and an interface

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to a second high capacity for directly coupling to a type two node, as taught in Applicants' invention of at least claim 1. Furthermore, since there is no teaching or suggestion in Wang of any direct connection between node C and node F, and the Examiner has interpreted node F as a type one node, Wang is completely devoid of any teaching or suggestion of an interface to a first high capacity trunk for directly coupling to a type one node, as taught in Applicants' invention of at least claim 1.

As such, from the perspective of node C, or any other node taught in Wang, Wang is completely devoid of any teaching or suggestion of an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node, as taught in Applicants' invention of at least claim 1. As such, Wang fails to teach or suggest each and every element of Applicant's invention of at least claim 1, as arranged in the claim.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added)). The Wang reference fails to teach each and every element of the claimed invention, as arranged in the claim.

Therefore, Applicants respectfully submit that independent claim 1 is not anticipated by the teachings of the Wang reference and, as such, fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder. Furthermore, independent claims 6 and 14 recite features similar to the features of claim 1. As such, for at least the same reasons discussed herein with respect to claim 1, Applicants respectfully submit that independent claims 6 and 14 are also not anticipated by the teachings of the Wang reference and, as such, fully satisfy the requirements of 35 U.S.C. §102 and are patentable thereunder. Therefore,

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Applicants respectfully request that the Examiner's rejection of claims 1, 6 and 14 be withdrawn.

### **35 U.S.C. §103**

#### **Claims 3, 8 and 16**

The Examiner has rejected claims 3, 8, and 16 under 35 U.S.C. §103(a) as being unpatentable over Wang. Applicants respectfully traverse the rejection.

As discussed above in response to the Examiner's §102 rejection, the Wang reference fails to teach or suggest Applicants' invention of claims 1, 6, and 14. Namely, Wang fails to teach or suggest an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node, as taught in Applicants' invention of at least claim 1. As such, Wang fails to teach or suggest Applicants' invention, as a whole.

The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). The Wang reference fails to teach or suggest Applicants' invention as a whole.

As such, Applicants submit that independent claims 1, 6 and 14 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 3, 8, and 16 depend directly from independent claims 1, 6, and 14, and recite additional limitations therefor. Accordingly, at least for the same reasons as discussed above, Applicants submit that these dependent claims are also non-obvious and fully satisfy the requirements of 35

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U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the Examiner's rejection be withdrawn.

**Claims 4, 9, 17 and 18**

The Examiner has rejected claims 4, 9, 17 and 18 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Applicants' specification admitted prior art. Applicants respectfully traverse the rejection.

As discussed above in response to the Examiner's §102 rejection, the Wang reference fails to teach or suggest Applicants' invention of claims 1, 6, and 14. Namely, Wang fails to teach or suggest an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node as taught in Applicants' invention of at least claim 1. As such, Wang fails to teach or suggest Applicants' invention, as a whole.

Furthermore, Applicants' specification admitted prior art fails to bridge the substantial gap between the Wang reference and Applicants' invention. The Applicants' specification merely states that a central office may pass traffic and that a cable station may split traffic. As such, the Wang reference and Applicants' specification admitted prior art, alone or in combination, fail to teach or suggest Applicants' invention as a whole.

As such, Applicants submit that independent claims 1, 6 and 14 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 4, 9, 17, and 18 depend from independent claims 1, 6, and 14, and recite additional limitations therefor. Accordingly, at least for the same reasons as discussed above, Applicants submit that these dependent claims are also non-obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the Examiner's rejection be withdrawn.

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**Claims 5, 10 and 15**

The Examiner has rejected claims 5, 10 and 15 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Tyrrell (U.S. Patent No. 5,185,736, hereinafter "Tyrrell"). Applicants respectfully traverse the rejection.

As discussed above in response to the Examiner's §102 rejection, the Wang reference fails to teach or suggest Applicants' invention of claims 1, 6, and 14. Namely, Wang fails to teach or suggest an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node as taught in Applicants' invention of at least claim 1. As such, Wang fails to teach or suggest Applicants' invention, as a whole. Furthermore, the Tyrrell reference fails to bridge the substantial gap between the Wang reference and Applicants' invention.

In general, Tyrrell teaches a synchronous optical transmission system for interfacing SONET formatted channels to lower speed channels in either SONET format or otherwise. (Tyrrell, Abstract). In particular, the system includes terminal multiplexers and add-drop multiplexers for terminating lower speed channels, adding low speed channels to a high speed SONET channel, and to interface high speed SONET channels to other high speed SONET channels. (Tyrrell, Col. 1, Lines 15-20).

Tyrrell, however, fails to teach or suggest each and every element of Applicants' invention of at least claim 1. Namely, Tyrrell fails to teach or suggest each of the limitations of "an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity trunk for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node," as taught in Applicants' invention of at least claim 1.

In the Office Action, the Examiner asserts that Tyrrell teaches that an "ADM or node inherently has an interface to a high speed capacity trunk called

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an east connection or type 2 node and also inherently has an interface to a high speed capacity trunk called a west connection or type 1 node." (Office Action, Pg. 2). The Applicants respectfully disagree.

As taught in Tyrrell, however, east and west connections do not denote different node types such that an east connection constitutes an interface to a type one node and a west interface constitutes an interface to a type two node. Rather, the east and west connections taught in Tyrrell merely denote direction of transmission and have no bearing on the type of node to which the east and west interfaces are connected. In other words, the interface from the ADM to another ADM on an east connection denotes a direction of transmission from the ADM to another ADM. Similarly, the interface from the ADM to another ADM on the west connection denotes a direction of transmission from the ADM to another ADM.

Tyrrell is completely devoid of any teaching or suggestion that the east and west connections are interfaces for coupling to different node types. The only type of nodes taught in Tyrrell are ADMs, and if the ADMs are assumed to be type one nodes then Tyrrell is devoid of any teaching or suggestion of type two nodes. As such, the east and west interfaces from an ADM both constitute interfaces to a type one node (or, alternatively, a type two node). A pair of interfaces for coupling to respective type one nodes which happen to be located in different directions of transmission from the ADM, as taught in Tyrrell, is not an interface for coupling to a type one node and an interface for coupling to a type two node, as taught in Applicants' invention of at least claim 1.

Furthermore, Applicants' invention of at least claim 1 teaches "wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node." As admitted by the Examiner, however, Tyrrell is completely devoid of any teaching or suggestion of " wherein only a portion of those low capacity client signals destined for the type one node are groomed into the high capacity trunk to the type two node."

As such, Applicants submit that independent claim 1, and independent claims 6 and 14 which recite similar limitations, are non-obvious and fully satisfy

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the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 5, 10, and 15 depend directly from independent claims 1, 6 and 14 and recite additional limitations therefor. Accordingly, at least for the same reasons as discussed above, Applicants submit that dependent claims 5, 10 and 15 are also not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the Examiner's rejection be withdrawn.

### **Claims 19 and 20**

The Examiner has rejected claims 19 and 20 under 35 U.S.C. §103(a) as being unpatentable over Wang in view of Dravida (U.S. Patent No. 5,253,248, hereinafter "Dravida"). Applicants respectfully traverse the rejection.

As discussed above in response to the Examiner's §102 rejection, the Wang reference fails to teach or suggest Applicants' invention of claim 1. Namely, Wang fails to teach or suggest an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node as taught in Applicants' invention of at least claim 1. As such, Wang fails to teach or suggest Applicants' invention, as a whole.

Furthermore, the Dravida reference fails to bridge the substantial gap between the Wang reference and Applicants' invention. Namely, the Dravida reference fails to teach or suggest at least the limitations of "an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node," as taught in Applicants' invention of at least claim 1.

Rather, Dravida teaches a connection control scheme for connectionless networks. As taught in Dravida, congestion is monitored locally and thresholds

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are defined in order to declare the onset and abatement of congestion. As taught in Dravida, since the control actions are taken in a completely distributed manner, based on local measurements only, no signaling messages need to be exchanged. Rather, however, fails to teach or suggest at least the limitations of "an interface to a first high capacity trunk for directly coupling to a type one node and an interface to a second high capacity for directly coupling to a type two node, wherein only a portion of those low capacity client signals destined for the type one node are groomed into the second high capacity trunk to the type two node," as taught in Applicants' invention of at least claim 1. As such, Wang and Dravida, alone or in combination, fail to teach or suggest Applicants' invention, as a whole.

As such, Applicants submit that independent claims 1 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Furthermore, claims 19 and 20 depend directly from independent claim 1 and recite additional limitations. Accordingly, at least for the same reasons as discussed above, Applicants submit that dependent claims 19 and 20 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, Applicants respectfully request that the Examiner's rejection be withdrawn.

### **CLAIM OBJECTIONS**

The Examiner has rejected claims 1, 3-6, 8-10, 16, 17, and 19-20 for various informalities.

With respect to the Examiner's objections to the "high capacity trunk" and "wherein the groomed portion is zero," Applicants have herein amended claims 1, 6, 14, and 19 to distinguish between the high capacity trunks, as suggested by the Examiner. Furthermore, Applicants have herein cancelled claim 16 as suggested by the Examiner.

With respect to the Examiner's objection to use of the term "cable station" Applicants respectfully submit the cable stations depicted and described with respect to FIG. 1 – FIG. 3 and the cable stations depicted and described with

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respect to FIG. 4, FIG. 5, and FIG. 7 are identified using different reference numbers. As such, Applicants submit that it is clear that the cable stations depicted and described with respect to FIG. 1 – FIG. 3 may provide one set of capabilities while the cable stations depicted and described with respect to FIG. 4, FIG. 5, and FIG. 7 may provide another set of capabilities. As such, although the Applicants did not choose a new name for the enhanced cable station, Applicants maintain that it is clear from the specification and drawings, as filed, that the cable stations depicted and described with respect to FIG. 4, FIG. 5, and FIG. 7 may provide expanded capabilities not supported by prior art cable stations. As such, Applicants respectfully request that the objection be withdrawn.

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### CONCLUSION

Thus, Applicants submit that all of the claims presently in the application, are patentable under the provisions of 35 U.S.C. §§102 and 103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Michael Bentley at (732) 383-1434 or Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

12/20/05

E J Wall

Eamon J. Wall, Attorney  
Reg. No. 39,414  
(732) 530-9404

Patterson & Sheridan, LLP  
595 Shrewsbury Avenue  
Suite 100  
Shrewsbury, New Jersey 07702